

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Fig. 2 and Fig. 7.

Attachment: Replacement sheet
 Annotated sheet showing changes

REMARKS

Applicants amend claims 1-3, 5-6, 9-12, 16-18, 20, 22-24, 26, 30, 32, 34, 36, 43, 45-47, 51-52, 54-56, and 60 and cancel claim 19. Applicants add new claims 61-78. Hence, claims 1-18 and 20-78 are pending, of which claims 1, 7, 12, 17, 24, 32, 34, 43, 52, 61, 66, 70, and 74 are independent. No new matter is added. Applicants note that the claim amendments are made not to address any prior art rejection, but to clarify the claimed invention. Applicants respectfully submit that the pending claims define over the art of record.

Objection to the Title

The Examiner considers that the title of the invention is not descriptive. Applicants respectfully request that the Examiner changes the title to “Graphical Representation of a Function within a Graphical State Diagram”. Applicants respectfully request that the Examiner reconsider and withdraw the objection to the title.

Objection to the Oath/Declaration

Applicants respectfully submit that the Oath/Declaration was submitted on August 22, 2001. A copy of the filed Oath/Declaration is attached herein. Applicants respectfully request that the Examiner reconsider and withdraw the objection to the Oath/Declaration.

Objection to the Specification

The Examiner objects to the incorporation by reference of the Appendix in the specification. Applicants respectfully note that the specification will be amended upon indication of allowability of the pending claims.

Objection to the Drawings

The Examiner objects to the drawings due to some minor inconsistencies between the drawings and the specification. Applicants amend the drawings to address the Examiner’s concerns. Applicants respectfully request the Examiner reconsider and withdraw the objection to the drawings.

Claim Rejection

Claims 1-60 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Publication No. 2002/0083413 to Kodosky et al. (hereafter “Kodosky”). This rejection is respectfully traversed and reconsideration is requested. Applicants respectfully submit that Kodosky does not disclose each and every element of the pending claims.

The Claimed Invention

The claimed invention allows a user to *graphically* represent a function that is used in conjunction with a finite state machine. The diagrammatic representation of the function can be easier to understand and modify than a textual representation. The finite state machine may itself be represented graphically.

Like any other functions, graphical functions can be called, and in the case of a model represented as a finite state machine, a graphical function may be called anywhere in the finite state machine, such as at a state or a transition. The same graphical function may be called at multiple states and/or transitions. A graphical may be defined by a diagram that is capable of describing a function, such as, for example, by elements from data flow diagrams, control flow diagrams, and/or state diagrams. One can view the graphical function as a separate diagram from the diagram representing the model as the finite state machine. When a state or transition calls a graphical function during execution of the model, the graphical function is executed, after which a result of the execution may be returned to the state or transition that has called the graphical function, or the execution of the model may be altered, or additional side-effects may be produced. Applicants respectfully submit that the claimed invention is not merely the graphical representation of a finite state machine, but rather the ability to graphically represent a function used in conjunction with a finite state machine and the ability to call the function from anywhere in the finite state machine.

Claims 1-18 and 20-33

Independent claim 1 recites, among other limitations, the step of calling the function that is represented graphically from within the finite state machine. The Examiner states that

Kodosky discloses the step of calling the graphical function in a modeling system at page 15, paragraph 166, lines 11-15. Applicants respectfully disagree. In the cited section, Kodosky merely discusses that a state diagram editor may support execution highlighting. Kodosky does not disclose making a call to a graphical function that is then executed during the model execution. Execution highlighting of Kodosky is a feature of the state diagram editor and is not a function that is called from within the finite state machine, as is recited in the pending claims.

Furthermore, independent claim 1 requires the step of representing the at least one function graphically. The Examiner considers that Kodosky discloses this step at page 14, paragraph 165, lines 1-5 and figure 19. However, this section merely discloses an exemplary graphical program that is programmatically generated based on a state diagram. Hence, Kodosky refers to a graphical program as a representation of a state diagram. In contrast, the claimed invention is not about how to represent a state diagram graphically, but rather how to use a graphically represented function *in conjunction* with a state diagram. Applicants respectfully submit that Kodosky does not disclose the limitation of graphically representing the at least one function graphically for use with a finite state machine. Although Kodosky allows manual input of code by a user to specify program instructions, this is different from defining a function. One of ordinary skill in the art will appreciate that a function can be “called” without writing the code for the function more than once. Kodosky does not disclose defining a function graphically so that the graphical function can be used in conjunction with a graphical representation of a finite state machine. Hence, Applicants respectfully submit that Kodosky does not disclose the steps of providing a graphical user interface defining a function in conjunction with a graphical representation of a finite state machine and representing the at least one function graphically, as required by independent claim 1.

Independent claims 7 and 12 require the element of a computer program residing on computer readable media having instructions to cause the computer to receive user input defining at least one graphical function and use the at least one graphical function in a simulation. The Examiner considers that Kodosky discloses the limitation of receiving user input defining at least one graphical function at page 6, paragraph 63, lines 1-8. However, the cited section merely discusses that a computer system stores a program that receives state diagram information and programmatically generates a graphical program based on the state diagram

information. Nowhere in Kodosky does the reference disclose the limitation of receiving user input defining at least one graphical function.

Independent claims 17, 24, and 32 recite similar limitations with independent claims 1, 7, and 12. The arguments set forth above apply with equal force here and are reiterated as if set forth in full. Accordingly, Applicants respectfully submit that Kodosky does not disclose each and every element and limitation of independent claims 1, 7, 12, 17, 24, and 32. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1, 7, 12, 17, 24, 32, and their corresponding dependent claims, 2-6, 8-11, 13-16, 18, 19-23, 25-31, and 33.

Claims 34-60

Independent claims 34, 43, and 52 recite, among other elements, the element and limitation of a component coupling a component representing a function with at least one of the states or at least one of the transitions. The Examiner suggests that Kodosky discloses this element and limitation at page 2, paragraph 17, lines 1-4. However, in this cited section, Kodosky only discloses that each state may represent some instructions or sequence of instruction that is executed when the state is active. The advantage of using a function graphically represented as a component is that the function only needs to be defined once, and one can later “call” the function to perform the same graphical set of instructions without the need to repeat the same set of instructions again at other locations in the state diagram. Applicants respectfully submit that Kodosky does not teach or suggest a component representing a function, nor that such a component may be coupled with at least one state or transition.

Accordingly, Kodosky does not disclose each and every element and limitation of independent claims 34, 43, and 52. Applicants note that dependent claims 35-42, 44-51, 53-60 also recite separate patentable subject matter, for example, claims 36, 45, and 54 require the limitation that at least a subset of the one or more block components representing the selected state and the one or more transition components can invoke the function. The Examiner considers that Kodosky discloses this limitation at page 12, paragraph 132, lines 1-5, figure 8, and page 1, paragraph 10, lines 1-5. However, the cited section discloses how a user can use icons and interconnects to build a block diagram and how a user can specify instructions to execute within a state. Therefore, at most, the Kodosky reference discloses that transitions can

be used to build a block diagram, but nowhere does Kodosky disclose that a transition can invoke a graphical function. Furthermore, even if Kodosky disclosed a state can invoke a function in the cited sections, *arguendo*, Kodosky does not disclose that a state or transition can invoke a graphical function.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of independent claims 34, 43, and 52 and their dependent claims 35-42, 44-51, and 53-60.

New Claims 61-78

New claims 61-78 are added, of which claims 61, 66, 70, and 74 are independent. No new matter is added. Support for the new claims can be found throughout the specification and at least in Fig. 4. Independent claims 61, 66, 70, and 74 recite, among other elements, the element of graphically representing a function for use in conjunction with a model within the graphical block diagram environment. Applicants respectfully submit that the Kodosky reference merely discloses an exemplary graphical program can be programmatically generated based on a state diagram. However, the claimed invention is not about how to represent a state diagram graphically, but rather how to represent a function graphically, and use the graphically represented function in conjunction with a state diagram. Applicants respectfully submit that the Kodosky reference does not disclose *graphically representing* a function for use in conjunction with a model.

Additionally, independent claims 61, 66, 70, and 74 recite the step of textually invoking the graphically represented function within the model. The advantage of the claimed invention is that although a function is represented graphically, it can be invoked textually by calling the name of the function instead of invoking the function graphically. Applicants respectfully submit that the Kodosky reference does not disclose the step of textually invoking the graphically represented function from within the model, as required by the new claims.

Accordingly, Applicants respectfully submit that claims 61-78 define over the art of record.

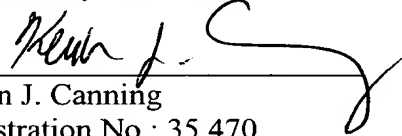
CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants submit herewith a petition for two month extension of time. Applicants believe no other fee is due with this statement. However, if another fee is due, please charge our Deposit Account No. 12-0080, under Order No. MWS-070 from which the undersigned is authorized to draw.

Dated: January 3, 2005

Respectfully submitted,

By 

Kevin J. Canning

Registration No.: 35,470

LAHIVE & COCKFIELD, LLP

28 State Street

Boston, Massachusetts 02109

(617) 227-7400

(617) 742-4214 (Fax)

Attorney For Applicant

Attachments

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ATTORNEY DOCKET NO.: 04899-044001

The Patent and Trademark Office date stamp sets forth the date of receipt of:

Applicant or Patentee Vijaya Raghavan et al.

No. (Application, Appeal, Interference, Patent, Reexam) 09/855, 199

Filing or Issue Date May 14, 2001

Title: Graphical Functions

- ☐ Transmittal Letter (2 Copies) ☐ With Pet. for Ext.
- ☐ Assignment ☐ Status Inquiry
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- ☐ Maintenance Fee ☐ Request Certificate of Correction
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- ☐ Drawings _____ Sheets Formal _____ Sheets Informal _____ Sheets Amended
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Vijaya Raghavan et al.
Serial No. : 09/855,199
Filed : May 14, 2001
Title : GRAPHICAL FUNCTIONS

Art Unit : Unknown
Examiner : Unknown

COPY

BOX MISSING PARTS

Commissioner for Patents
Washington, D.C. 20231

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION

In response to the Notice to File Missing Parts of Application under 37 CFR §1.53(b) mailed July 12, 2001 (copy enclosed), applicant as a large entity submits herewith the following:

- ☒ Payment of the basic filing fee of \$710;
- ☒ Payment of the additional/multiple dependent claims fees of \$250;
- ☒ Check in payment of \$130 surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application;
- ☒ Combined Declaration and Power of Attorney in compliance with 37 CFR §1.63;

It is understood that this perfects the application and no additional papers or filing fees are required. Please apply any other charges or credits to Deposit Account No. 06-1050.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

August 22, 2001
Date of Deposit

Maie Collins
Signature

Maie Collins
Typed or Printed Name of Person Signing Certificate


Applicant : Vijaya Raghavan
Serial No. : 09/855,199
Filed : May 14, 2001
Page : 2

Attorney's Docket No.: 04899-044001

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Respectfully submitted,

Date: Aug. 27, 2001


Daniel S. Coolidge
Reg. No. 46,071

Fish & Richardson P.C.
225 Franklin Street
Boston, Massachusetts 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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COMBINED DECLARATION AND POWER OF ATTORNEY

COPY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled GRAPHICAL FUNCTIONS, the specification of which:

☐ is attached hereto.

☒ was filed on May 14, 2001 as Application Serial No. 09/855,199 and was amended on

☐ was described and claimed in PCT International Application No. _____ filed on _____ and as amended under PCT Article 19 on _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information I know to be material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Daniel S. Coolidge, Reg. No. 46,071
Lawrence K. Kolodney, Reg. No. 43,807

David L. Feigenbaum, Reg. No. 30,378
Gilbert H. Hennessey, Reg. No. 25,759

Address all telephone calls LAWRENCE K. KOLODNEY at telephone number (617) 542-5070.

Address all correspondence to LAWRENCE K. KOLODNEY at:

FISH & RICHARDSON P.C.
225 Franklin Street
Boston, MA 02110-2804

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Full Name of Inventor: Vijaya Raghavan

Inventor's Signature: Vijaya Raghavan
Residence Address: 38 Crestwood Drive, Framingham, MA 01701
Citizenship: India
Post Office Address: 38 Crestwood Drive, Framingham, MA 01701

Date: 2 Aug 2001

Combined Declaration and Power of Attorney
Page 2 of 2 Pages

COPY

Full Name of Inventor: Jay Ryan Torgerson

Inventor's Signature: _____

Date: 8/2/01

Residence Address: 63 Deerfoot Road, Southborough, MA 01772

Citizenship: USA

Post Office Address: 63 Deerfoot Road, Southborough, MA 01772

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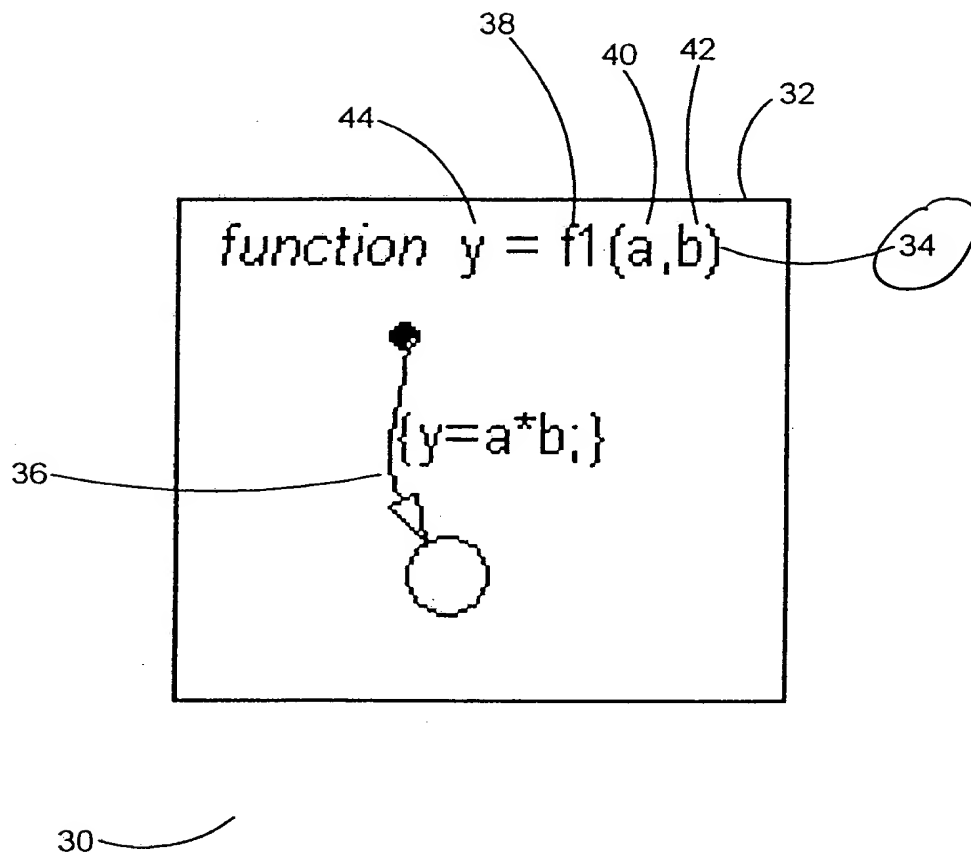


FIG. 2

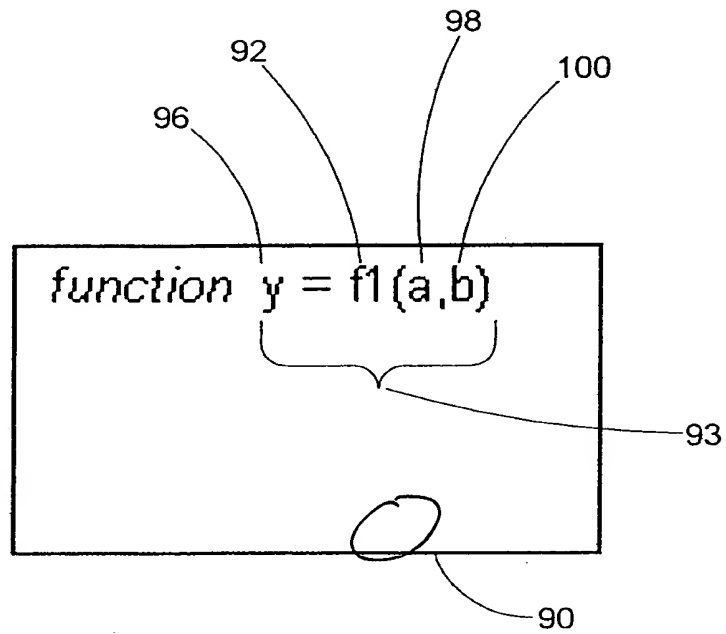


FIG. 7